Microphysical Properties of Monsoon Precipitation Retrieved from Precipitation Profilers in Support of NAME

FIGURES

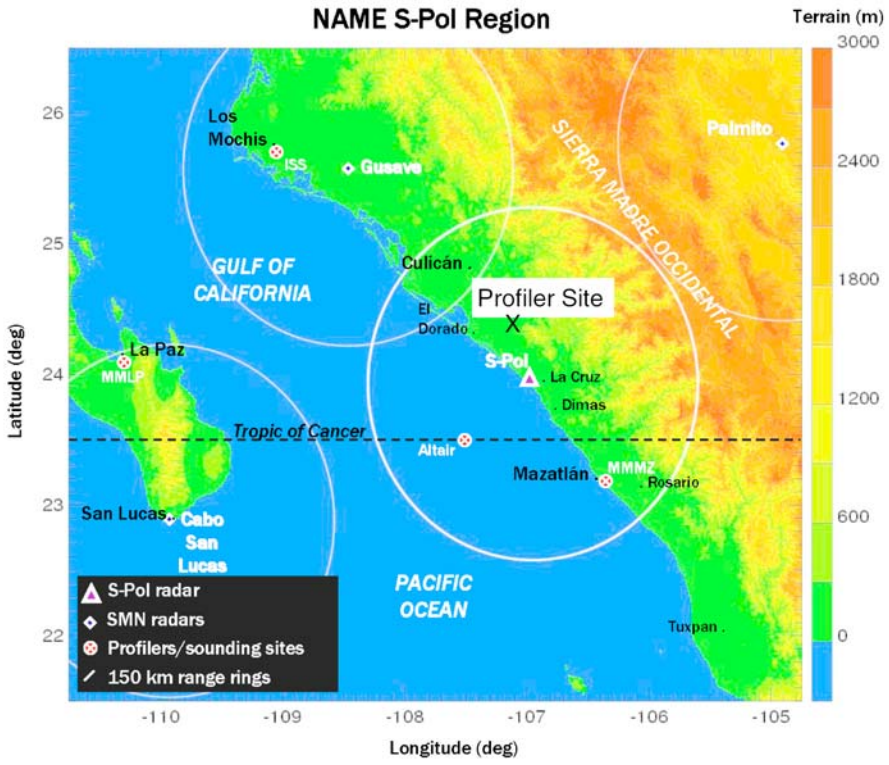

Figure 1. Map of the NAME S-POL region showing the location of the profiler site near Estaci—n Obispo, MX, and the spatial coverage of the S-POL scanning radar and the Gusave and Cabo San Lucas SNM scanning radars.

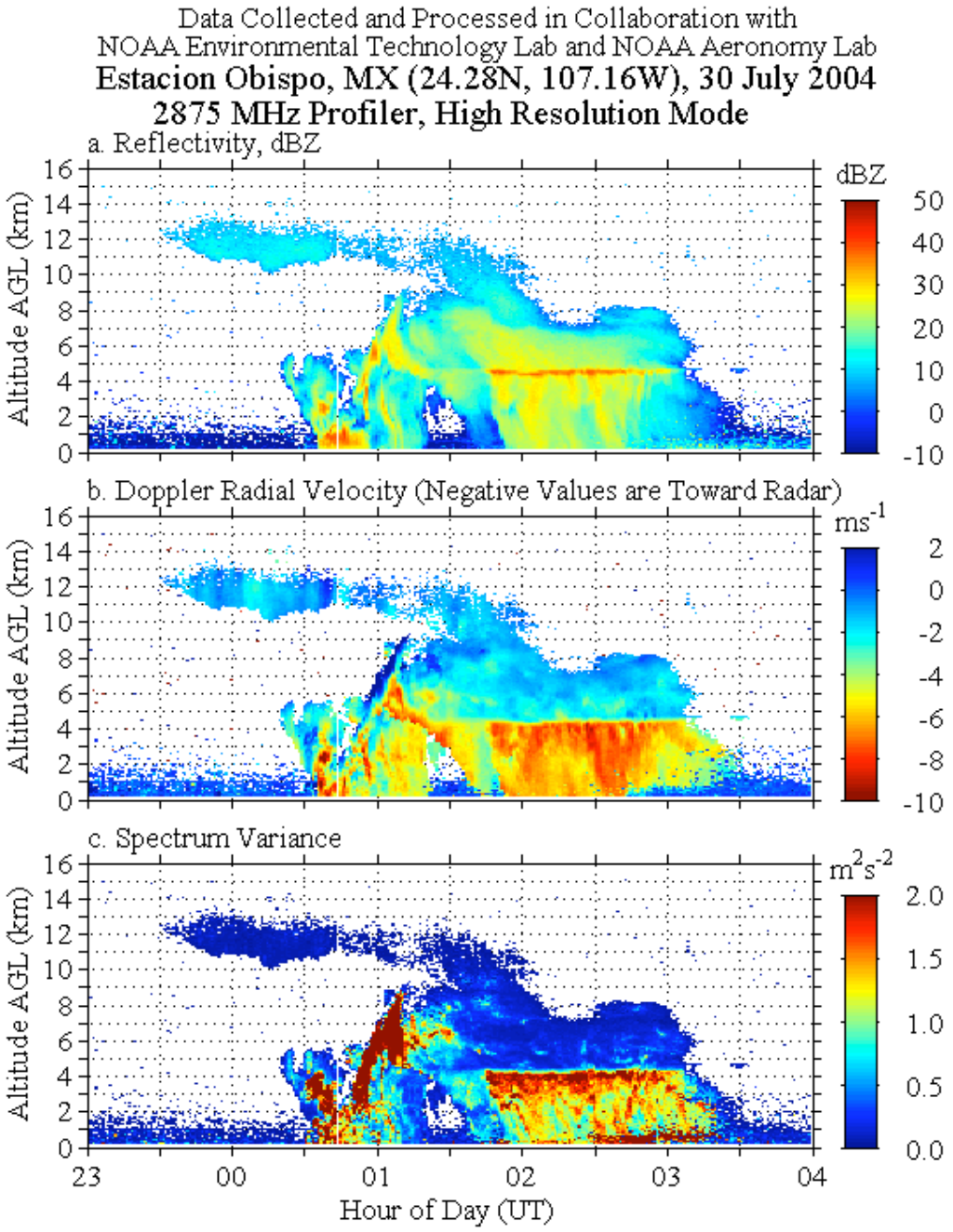

Figure 2. Time-height cross section of (a) reflectivity, (b) mean Doppler velocity, and (c) velocity spectrum variance observed by the 2875-MHz precipitation profiler during the 30-31 July 2004 rain event. The convective cell passing over the profiler at 0100 UTC is identified by the increased reflectivity above the freezing level (~4.5 km), the upward mean Doppler motion on the leading edge of the cell, and the increase spectrum variance. The stratiform rain from 0200 to 0300 UTC is identified by the well defined radar brightband and the change in mean Doppler velocity and spectrum variance as the snow and ice particles melt into raindrops.

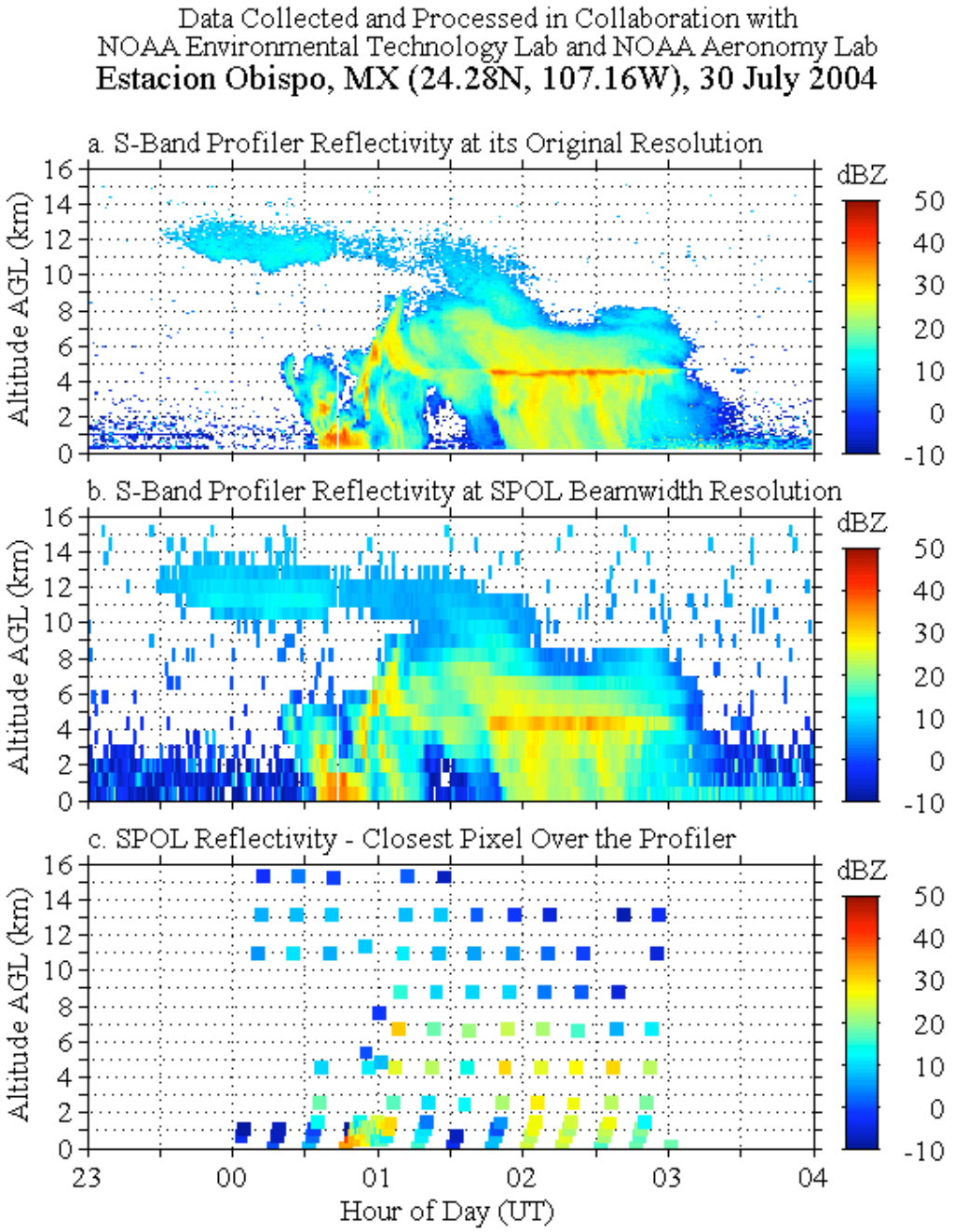

Figure 3. Time-height cross section of reflectivity observed by (a) the 2875-MHz precipitation profiler at the original 60-m vertical and one minute temporal resolution, (b) the 2875-MHz precipitation profiler averaged to 775-m vertical resolution to match the vertical resolution of the S-POL scanning radar, and (c) the S-POL scanning radar observations made over the precipitation profiler site.

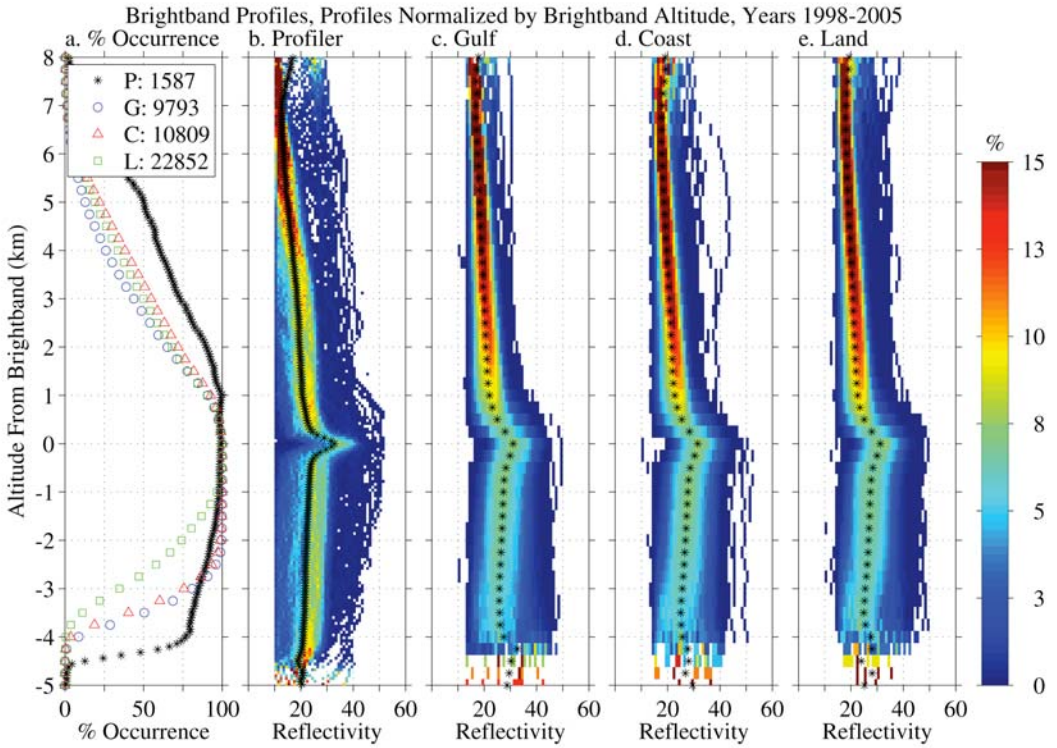

Figure 4. Vertical profiles of reflectivity distributions for the 2875 the TRMM/PR. Each profile of reflectivity has been adjusted in altitude of the maximum reflectivity in the brightband is defined Number of occurrence, (b) Profiler observations, (c) PR observations d) PR observations in the coast region, and (e) PR observations PR observations are for the 1998-2005 July to August seasons.